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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,952	11/15/2001	Nobuyuki Takamori	70801-56710	5464

21874 7590 08/23/2005

EDWARDS & ANGELL, LLP
P.O. BOX 55874
BOSTON, MA 02205

EXAMINER

ANGEBRANNDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/002,952		TAKAMORI ET AL.	
	Examiner		Art Unit	
	Martin J. Angebrannt		1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/10/05 & 4/8/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5,6 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,6 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/8/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. The examiner has read the response of the applicant and given it careful consideration.

Responses to the arguments of the applicant are presented after the first rejection that they are directed to. The examiner holds that the applicant has a basis for 5.5×10^{-5} on the basis of the second and/or third points from the right on the lower curve in figure 7. The basis for 4.0×10^9 is clear from the horizontal (x) axis of figure 7. Rejection of the previous office action, not repeated below are withdrawn based upon the amendment to the claims and therefore no response is presented with respect to those arguments.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,5,6 and 10-14 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Tajima et al. JP 2000-311381.

Tajima et al. JP 2000-311381 exemplifies optical recording media shown in figures 1,7 and 8, where the UV cured protective layers disclosed in table 5 as having thicknesses of 12

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microns. The example corresponding to the embodiments of table 5 meets the limitations of the claims and use 0.5 mm polycarbonate as the substrate material [0057]. The data in the tables establishes this, in particular that the Young's modulus is 5.9×10^9 Pa. Figure 10 shows the deflection (camber angle) as a function of time based upon the change from 60% humidity to 90% humidity at 25 degrees C. and the variation in the curvature is less than about 1 mRad. The optimization of the expansion properties and Young's modulus is taught throughout the reference including [0004-0006, 00012,0015,0026-0034].

The examiner notes that the linear expansion coefficients and Young's modulus are relatively unimportant by themselves. As the desire to reduce warping of the media is the intended/desired result, the applicant might find including any limitations found in the specification with respect to the warpage or tilt into the claims to distinguish over less desirable media with high warpage/tilt. (see Inuoue et al. '493).

The applicant argues that the humidity expansion coefficient is not taught. The examiner holds that the humidity expansion coefficient is an inherent property of the material and that the protective layer of the prior art cited inherently meets this limitation. The examiner notes that even the comparative example in the instant specification (see figures 12) meets the claim limitations (6.25×10^{-5}). The examiner notes that the materials disclosed in the instant application Urethane, epoxy, polyester and polyether acrylates are disclosed as useful and meeting the material limitation of the claims in the instant specification on **page 9 at lines 16-10**. [0037] in prepub. The instant specification after that portion indicates that the protective film is preferably made of "a material containing a large amount of poorly hydrophobic component", (prepub at [0038]). If the urethane, epoxy, polyester or polyether portion of the acrylate is not

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this, then the applicant may have an issue with an incomplete disclosure of how to make/practice the invention. As the applicant has disclosed the humidity expansion coefficient of polycarbonate as 7×10^{-6} , the low warpage/curvature reported in the reference applied requires that the protective layer have a similar humidity expansion coefficient as if these values were different, then the optical recording medium would warp. The rejection stands.

The applicant argues that the property is not taught in the reference. The examiner is holding a position of inherency and notes that while the property is not described, the effect is well documented in the reference, specifically in figure 10 which evidences that the deflection of the medium is less than ~ 1 mrad for a change in RH of 30% (60% to 90% RH), which is an equivalent or a better result than achieved by the applicant in the instant specification at [0090]. The diffusion rate of water through the layer is disclosed in tables 4 and 5. *The examiner still holds that the actual properties of the materials is a question of fact, which can be resolved by a declaration by one of the applicants as there are inventors in common.* While the expansion coefficient as a function of humidity is not disclosed, the effects certainly are and the ~ 1 mrad is comparable to the 0.7 mrad of example 1 and the 4.0 mrad of example 2 in the instant specification. The examiner is definitely of the opinion that if the medium does not warp more than the values of the applicants own specification under the effects of humidity and the other layers are the appropriate thicknesses and materials, then the claimed coefficient of expansion is clearly inherent. The “consisting essentially of” language is not particularly exclusionary in this case as the same layer (30) on the backside of the substrate is disclosed in figure 1 and sections [0006,0049] of the specification. Therefore this partially closed language does not exclude this layer. **The examiner also notes the fast equilibration in figure 10 of Tajima et al. JP 2000-**

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311381 (~1 to 1.5 hours), which is similar to that of figures 5 and 6 of the instant application, which also implies a similarity in the properties of the materials characterizing their response to humidity. As these properties are described in the instant as balancing a thin polycarbonate substrate, their optimized thickness and properties would not be that required to offset a thicker substrate.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tajima et al. '948 is the US equivalent of Tajima et al. JP 2000-311381

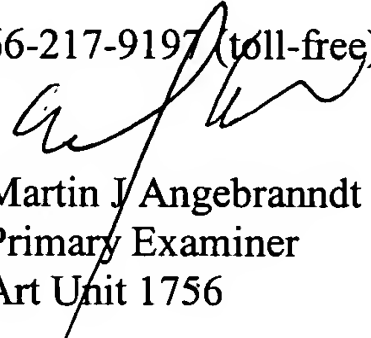
Akamatsu et al. '735 (8/5), Yoshida et al. '580 (table 3), Yamazaki et al. '795 (figures 14A-17), Fukushima et al. '704 (coefficient of water absorption, figure 6), Hashimoto et al. '288 (table 1 et al) all describe optical recording media and either the young's modulus or their response to humidity changes.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebranndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9309.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Martin J. Angebranndt
Primary Examiner
Art Unit 1756

01/04/2005